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STELLAR  $(n,\gamma)$  CROSS SECTIONS OF THE STABLE NE ISOTOPES

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Stellar neutron capture on neon isotopes is important for a number of astrophysical quests, i.e. for the interpretation of abundance patterns in presolar material or with respect to the *s*-process neutron balance in red giant stars. New resonance studies have been performed with the R-Matrix code SAMMY using experimental data in the keV range which had not been fully analysed before. The analysis included the consistent treatment of possible interferences in the resonant part. Theoretically calculated direct capture contributions, which are important for these light nuclei, were normalized by means of improved thermal cross sections. With these results the stellar rates could be determined for the relevant temperature range from  $kT = 1$  keV to 100 keV. Comparison with previous data shows that these cross sections have been significantly overestimated.